

# PATENT ABSTRACTS OF JAPAN

(11)Publication number : 2001-220294

(43) Date of publication of application : 14.08.2001

(51)Int.CI.

C30B 29/20  
B01J 19/00

(21)Application number : 2000-032809

(71)Applicant : DENSO CORP

(22)Date of filing : 04.02.2000

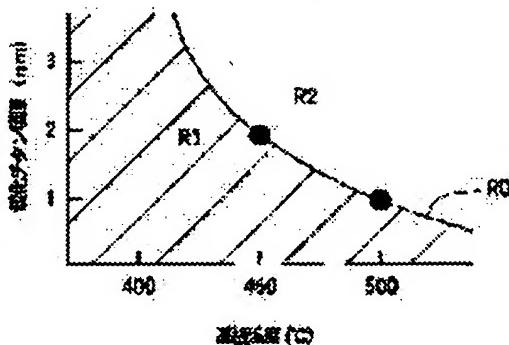
(72)Inventor : SANO YUKIHIRO  
KATAYAMA MASAYUKI

## (54) METHOD FOR FORMING FILM BY ATOMIC LAYER EPITAXIAL GROWING METHOD

### (57)Abstract:

PROBLEM TO BE SOLVED: To realize a layer structure in which aluminum oxide and titanium oxide are separated and do not mix each other, in a film forming method in which an insulating membrane is formed by alternately laminating the aluminum oxide and the titanium oxide by using an ALE method.

SOLUTION: This method for forming a film is provided by setting a base substrate temperature at which the aluminum oxide and the titanium oxide do not mix with each other based on the aimed film thickness of the aluminum oxide and the titanium oxide by utilizing a phenomenon in that when the film thickness of the titanium oxide becomes smaller, then the base substrate temperature so as not to mix the titanium oxide with the aluminum oxide, becomes higher and a conditional zone R1 for realizing such layer structure having the separated aluminum oxide and titanium oxide, moves to high temperature side, and forming the film at the above set base substrate temperature.



### LEGAL STATUS

[Date of request for examination]

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

[Date of extinction of right]